

### Abstract of the Disclosure

An apparatus and a method for encoding a DNA sequence are provided. A comparative unit aligns a reference sequence having known DNA information with a subject sequence to be encoded so that consensus bases of the two sequences are optimally matched and extracts a difference between the two sequences. A conversion unit converts information of the extracted difference between the reference sequence and the subject sequence into a string of predetermined characters. An encoding unit encodes the individual characters that make the string of the characters using predetermined conversion codes corresponding to the individual characters stored in a code storage unit. A compression unit compresses the encoded result using a common compression method. The compressed result is stored in a sequence storage unit.